

# Traefik Enterprise Edition & Maesh



Paris Kubernetes Days - Wednesday 25th of September 2019

# How To Use These Slides?

- **Browse the slides:** Use the arrows
  - Change chapter: Left/Right arrows
  - Next or previous slide: Top and bottom arrows
- **Overview of the slides:** keyboard's shortcut "o"
- **Speaker mode (and notes):** keyboard's shortcut "s"

# Whoami 1/2

Manuel Zapf

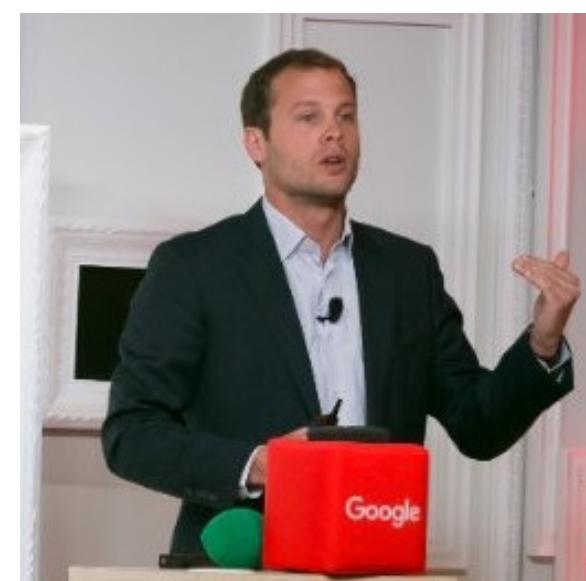
- 🏴 Træfik's Solution Architect 🔨 @ Containous
- 🐦 @mZapfDE
- 🐳 SantoDE



# Whoami 2/2

Adrien Martinet

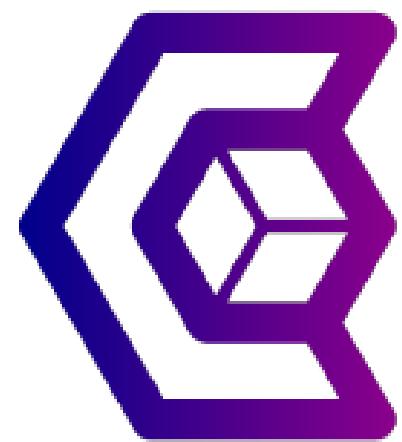
- 🎤 Sales @ Containous
- 🐦 @martinet\_adrien
- 💬 adrimartinet



# Containous

<https://containo.us>

- We Believe in Open Source
- We Deliver Traefik and Traefik Enterprise Edition
- Commercial Support
- 30 people distributed, 90% tech

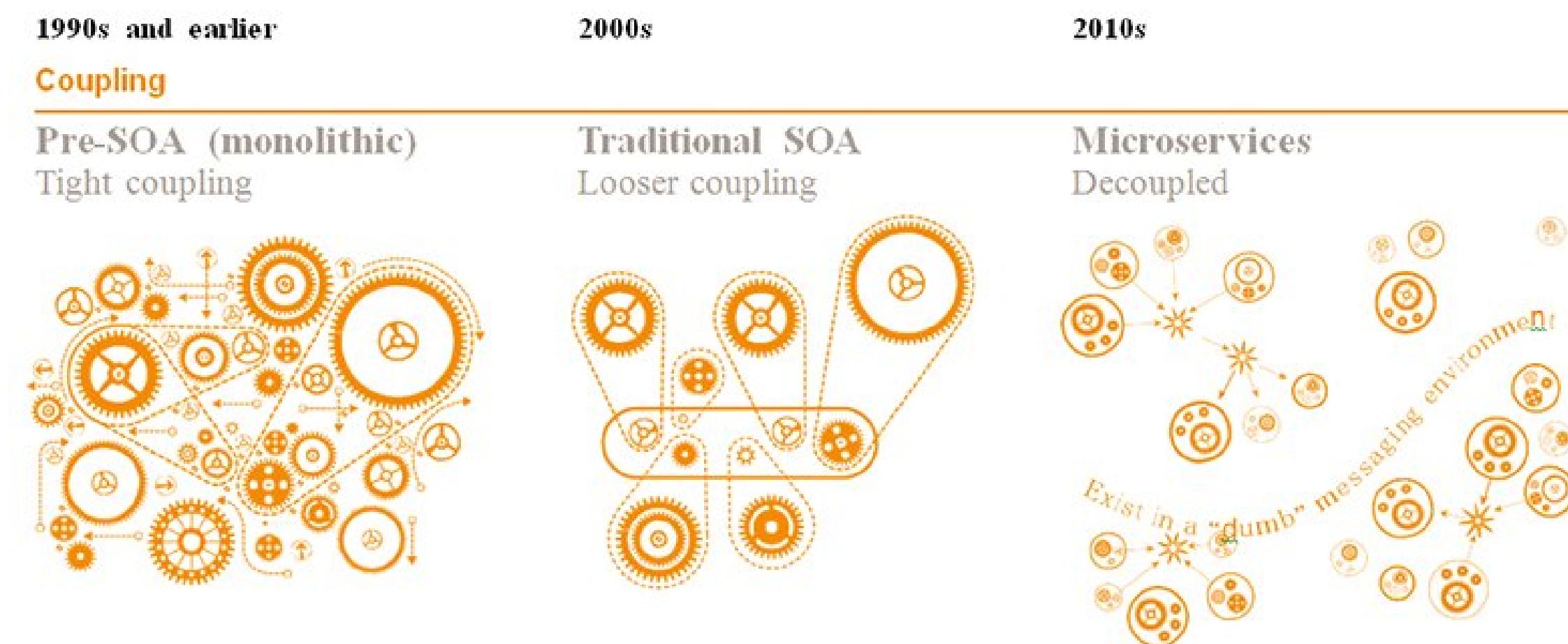


# Why Traefik?



Why, Mr Anderson?

# Evolution Of Software Design



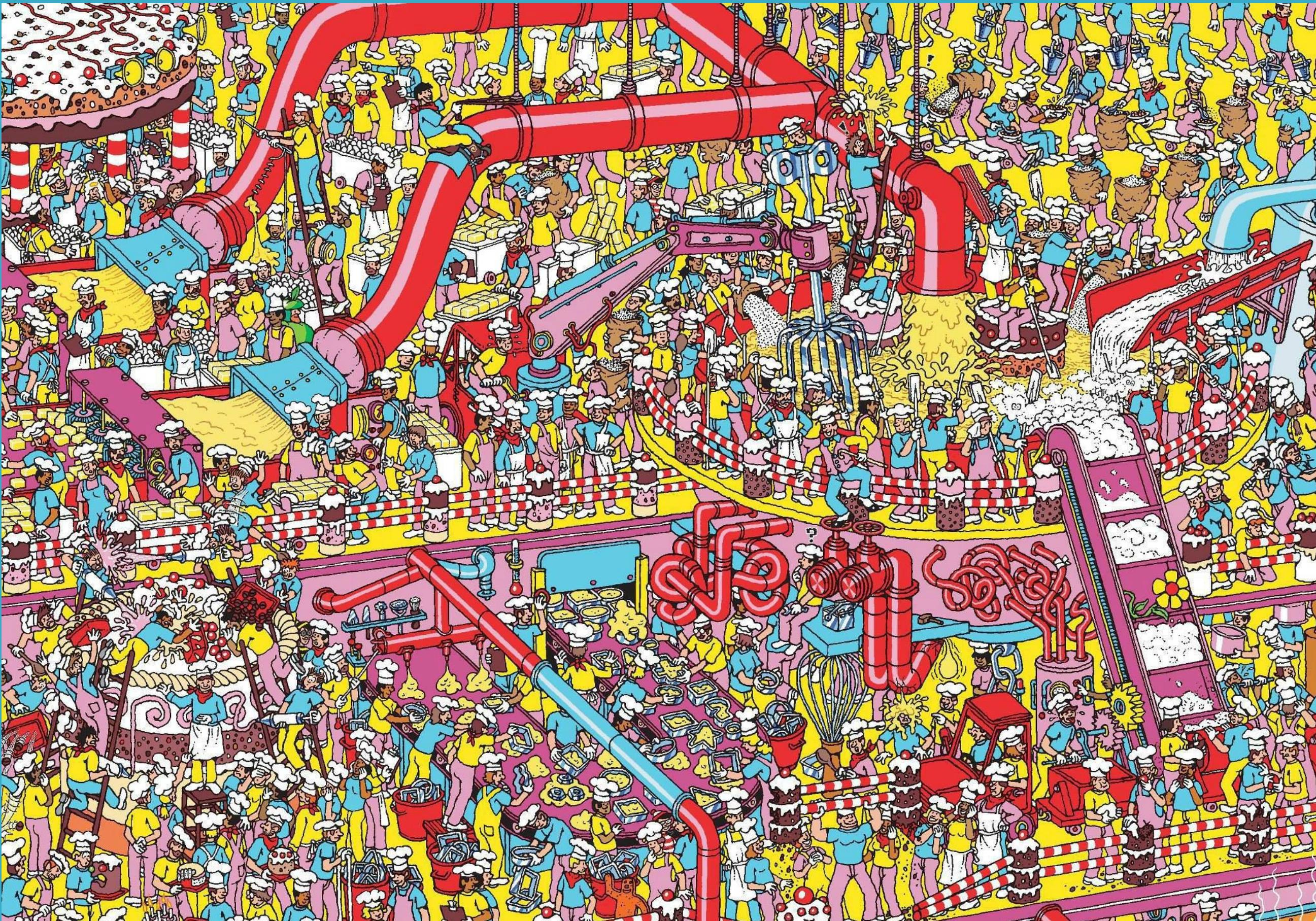
# The Premise Of Microservices...



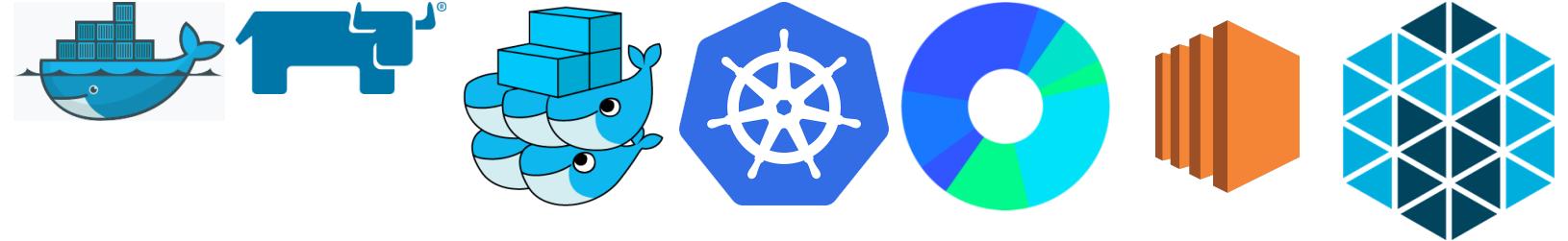
# ...And What Happens

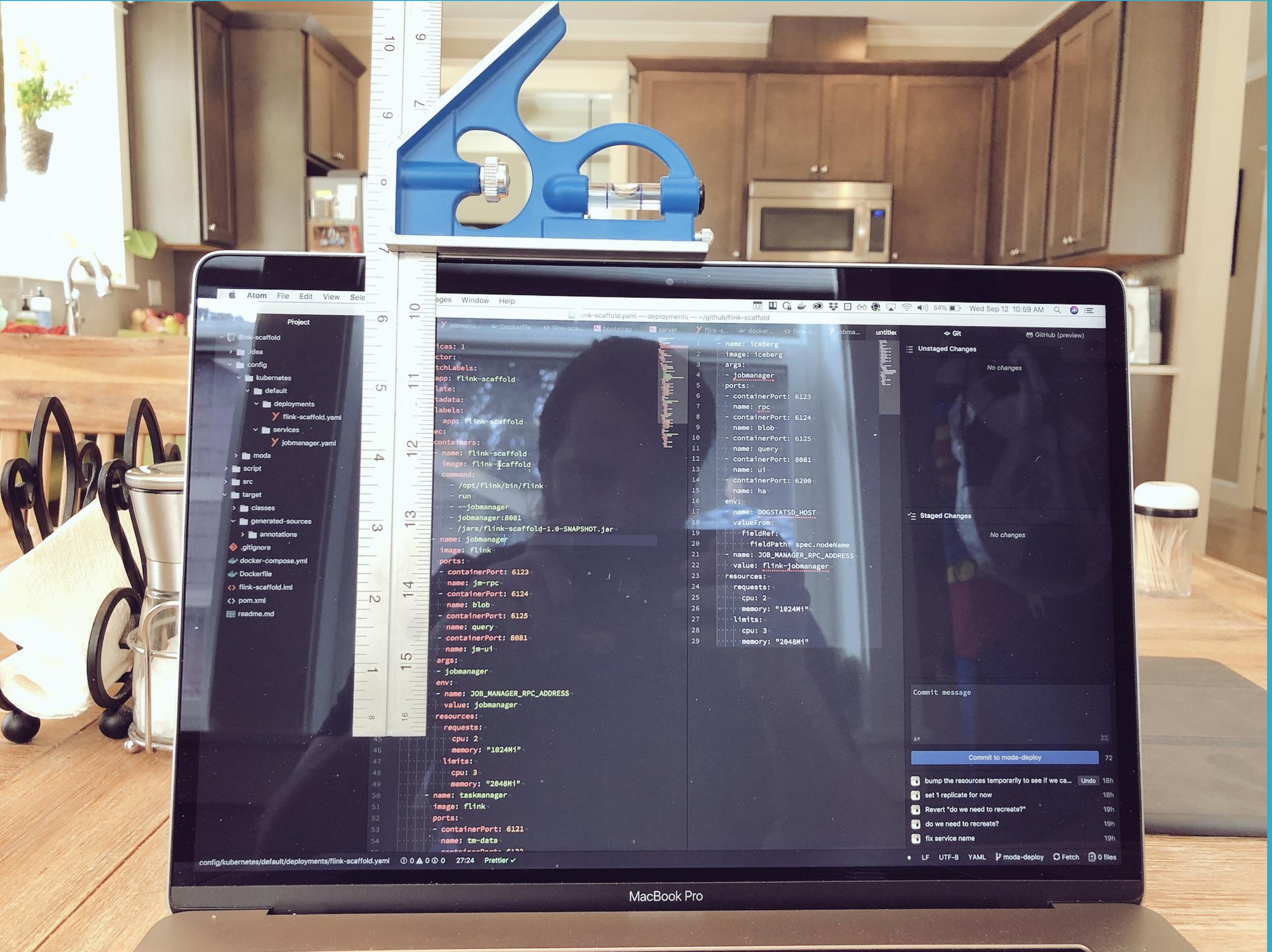


# Where's My Service?



# Tools Of The Trade





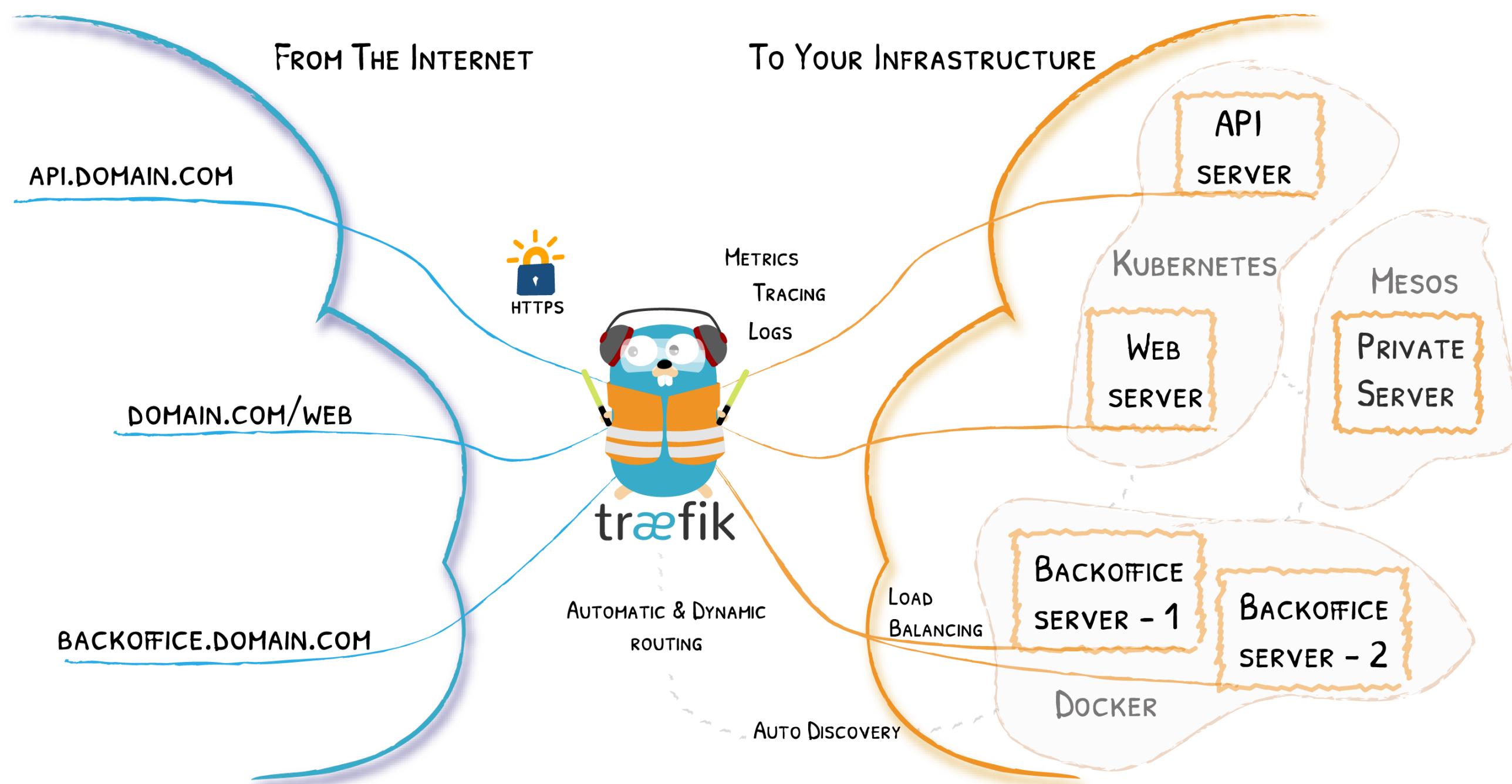
Source: <https://twitter.com/Caged/status/1039937162769096704>

# What If I Told You?



That You Don't Have to Write This Configuration File...?

# Here Comes Traefik!



# Traefik Project

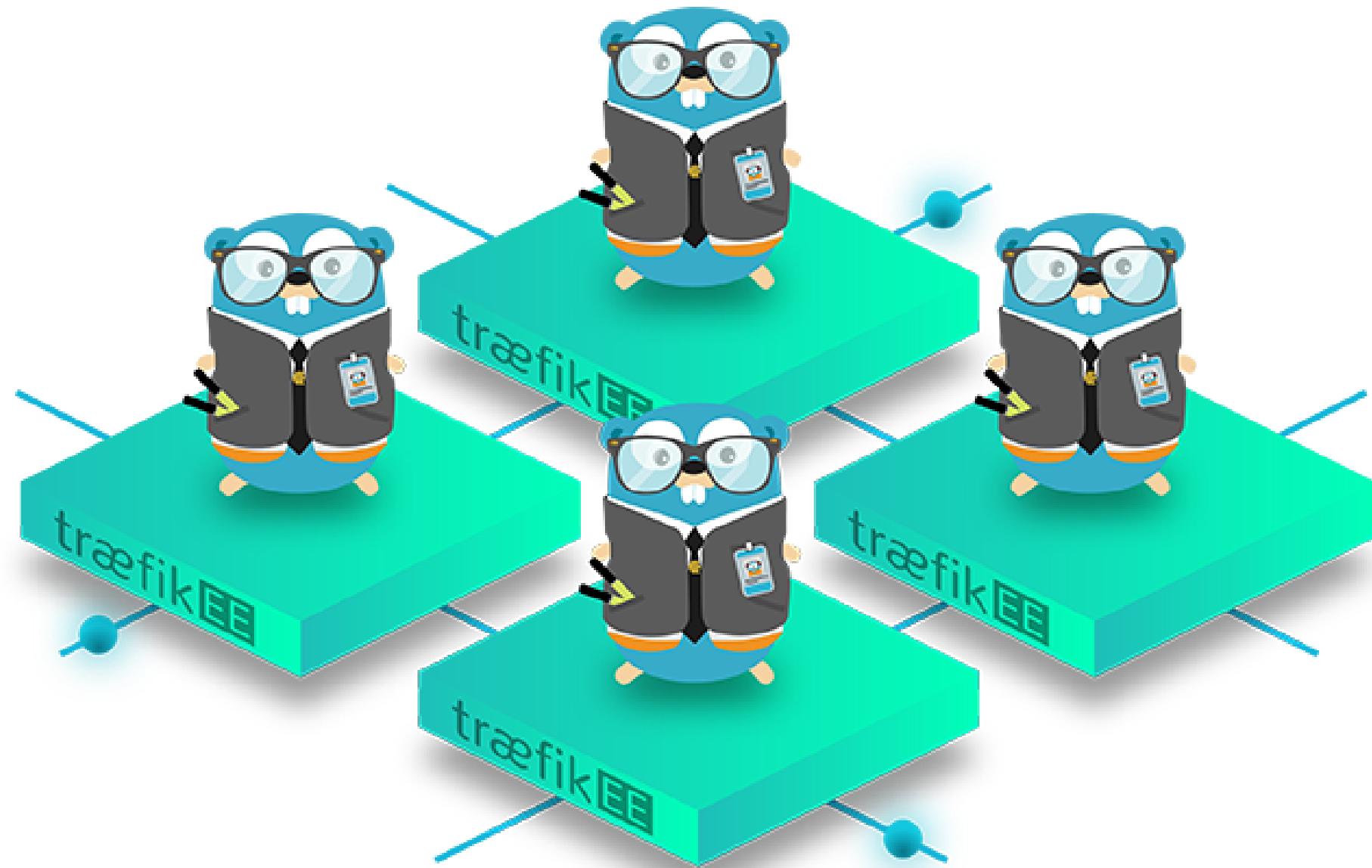
-  <https://github.com/containous/traefik>
- MIT License
- Written in Go
- 24,000+  1B+  400+ 
- Created in 2015, 4Y 
- Current stable branch: v2 . 0

# The Herd



You came to the wrong neighbour

# Traefik Comes In Herd



# Value Proposition

- Community Driven Edge Router
- Cloud Native & Agnostic
- Configuration Auto-Discovery
- Native Observability & Tracing
- Deploy Easily and Operate at Scale
- Security : Encryption & Separation of Concern
- High Availability



High Availability

# HIGH AVAILABILITY

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# SECURITY

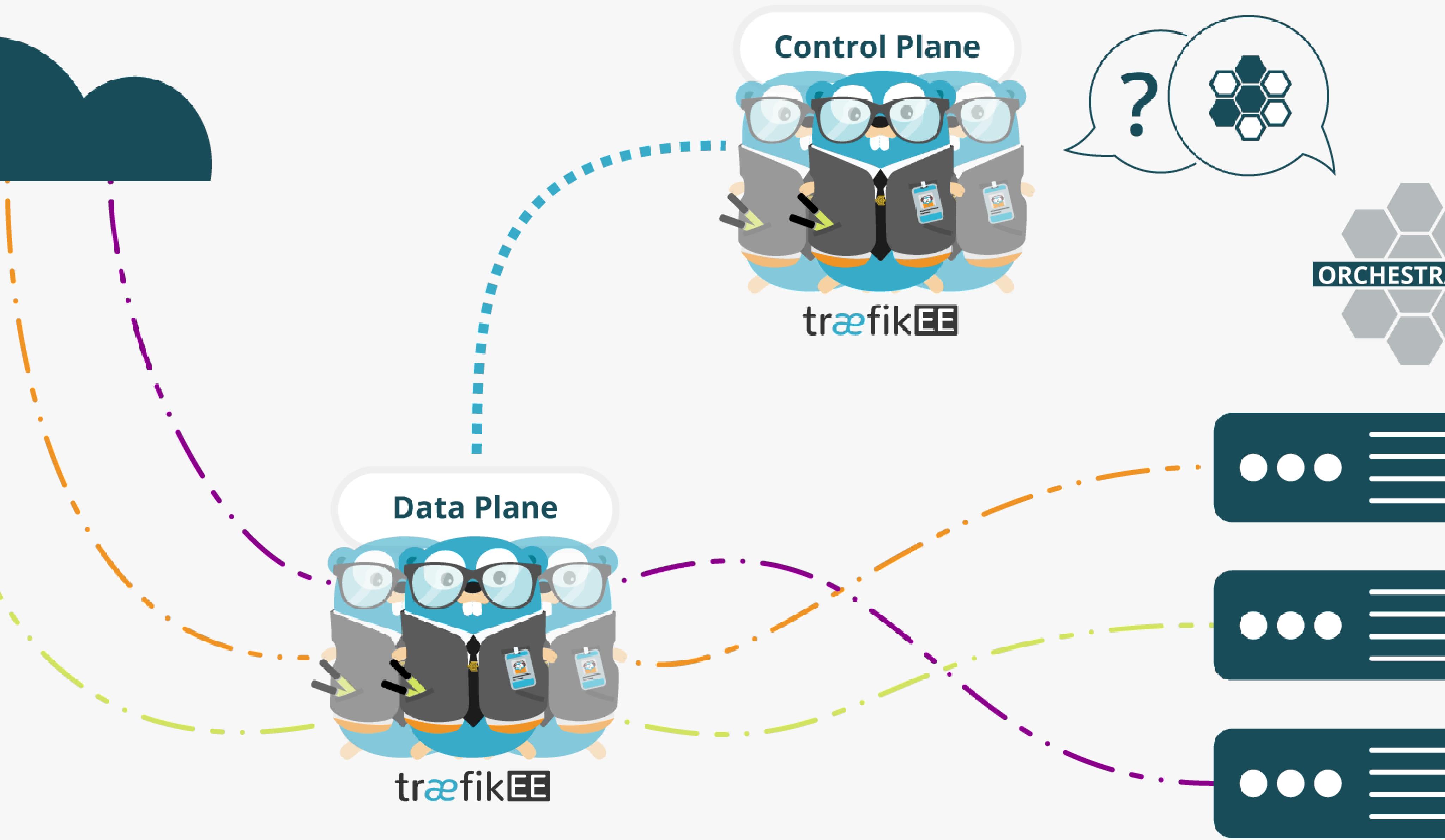
traefik ENTERPRISE EDITION

Scalability



# SCALABILITY

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# As Simple As Traefik

- Install it:

```
# Cluster Installation
traefikeectl install \
--licensekey="SuperSecretLicence" \
--dashboard \
--kubernetes # Or --swarm
```

- Configure it:

```
# Routing Configuration, same as Traefik's
traefikeectl deploy \
--acme.email=ssl-admin@mycompany.org
--acme.tlsChallenge
...
```

# Free Trial

<https://containo.us/traefikee>

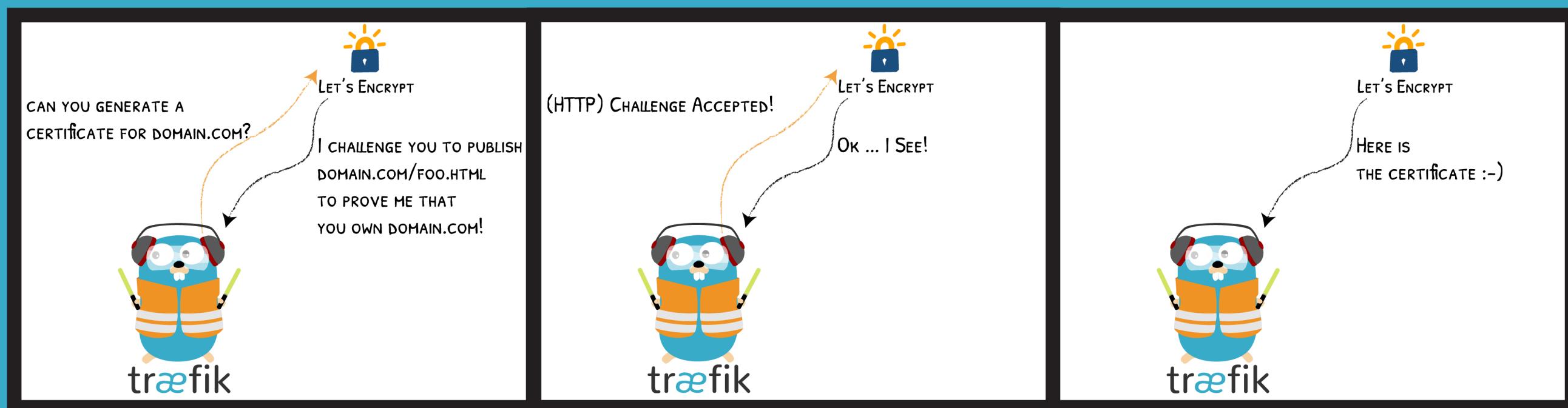
# Show Me The Configuration!

# Keep It Simple

- With 

```
entrypoint:  
  image: traefik:v1.7  
  command:  
    - "--docker"  
    - "--docker.domain=mycompany.org"  
    - "--acme.email=ssl-admin@mycompany.org"  
    - "--acme.httpChallenge.entryPoint=http"  
    # Or you could use a TOML file with "--configFile=/etc/traefik/traefik.toml  
volumes:  
  - /var/run/docker.sock:/var/run/docker.sock
```

# HTTPS For Everyone With Let's Encrypt



- TLS, DNS and HTTP challenges supported

# With 🐳: Simple Backend

```
# https://www.mycompany.org -> http://webserver:80/
webserver:
  image: nginx:alpine
  labels:
    - "traefik.frontend.rule=Host:www.mycompany.org"
```

# With 🐳: Context

```
# https://mycompany.org/jenkins -> http://jenkins:8080/jenkins
jenkins:
  image: jenkins/jenkins:lts
  labels:
    - "traefik.frontend.rule=PathPrefix:/jenkins"
    - "traefik.port=8080" # Because 50000 is also exposed
  environment:
    - JENKINS_OPTS="--prefix=/jenkins"
```

# With : Rewrites

```
# https://mycompany.org/gitserver -> http://gitserver:3000/
gitserver:
  image: gitea/gitea:1.5
  labels:
    - "traefik.frontend.rule=PathPrefixStrip:/gitserver"
    - "traefik.port=3000" # Because 22 is also exposed
```

# With : Websockets

```
# https://mycompany.org/webterminal -> http://webterminal:7681/
webterminal:
  image: ts10922/ttyd
  labels:
    - "traefik.frontend.rule=PathPrefixStrip:/webterminal"
  expose:
    - "7681"
```

# Traefik With ⚓

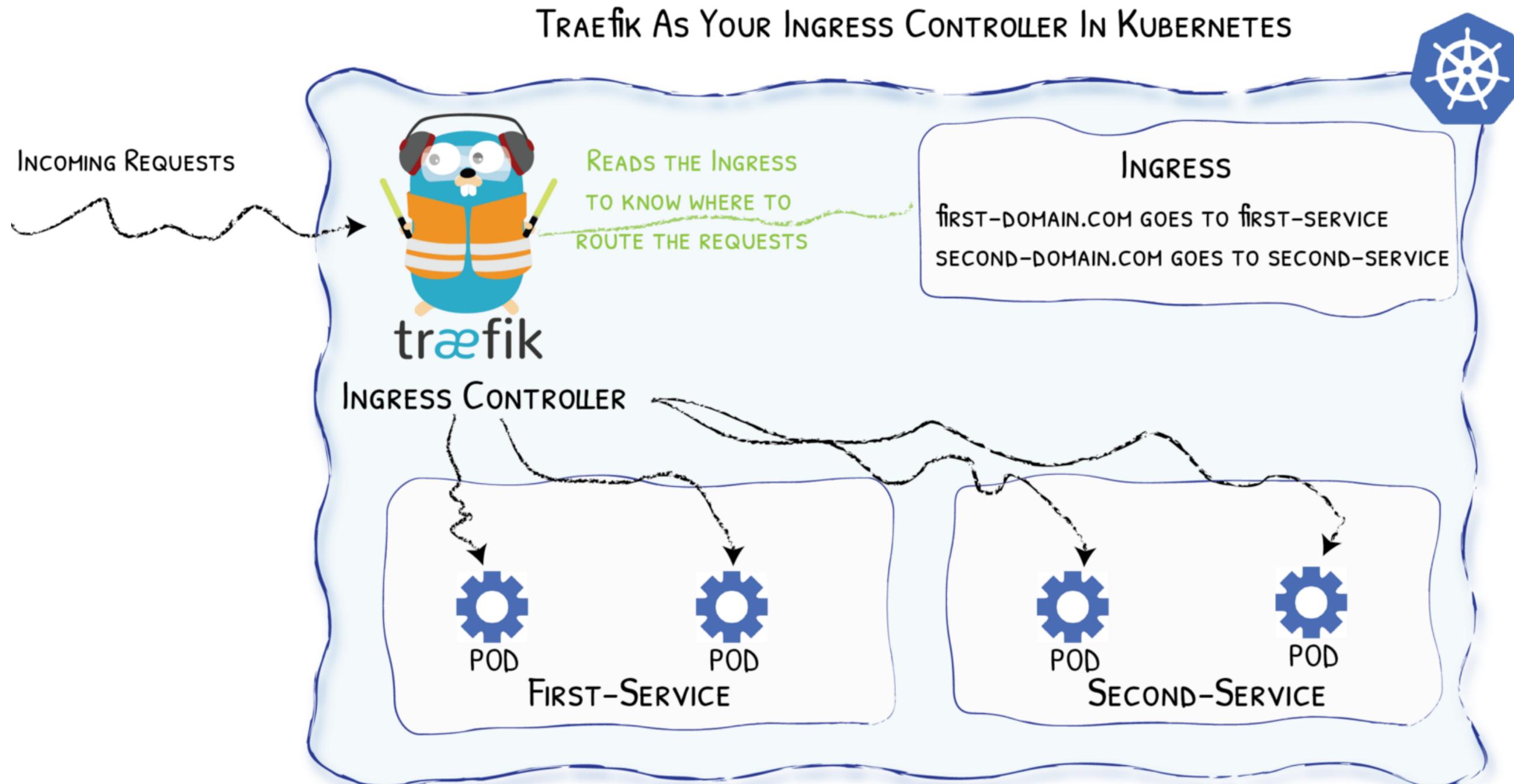


Diagram from <https://medium.com/@geraldcroes>

# Did You Say YAML?

```
apiVersion: extensions/v1beta1
kind: Ingress
metadata:
  annotations:
    # kubernetes.io/ingress.class: 'nginx'
    kubernetes.io/ingress.class: 'traefik'
spec:
  rules:
  - host: mycompany.org
    http:
      paths:
      - path: "/whoami"
        backend:
          serviceName: whoami
          servicePort: 80
```

# We Missed Talking About ...

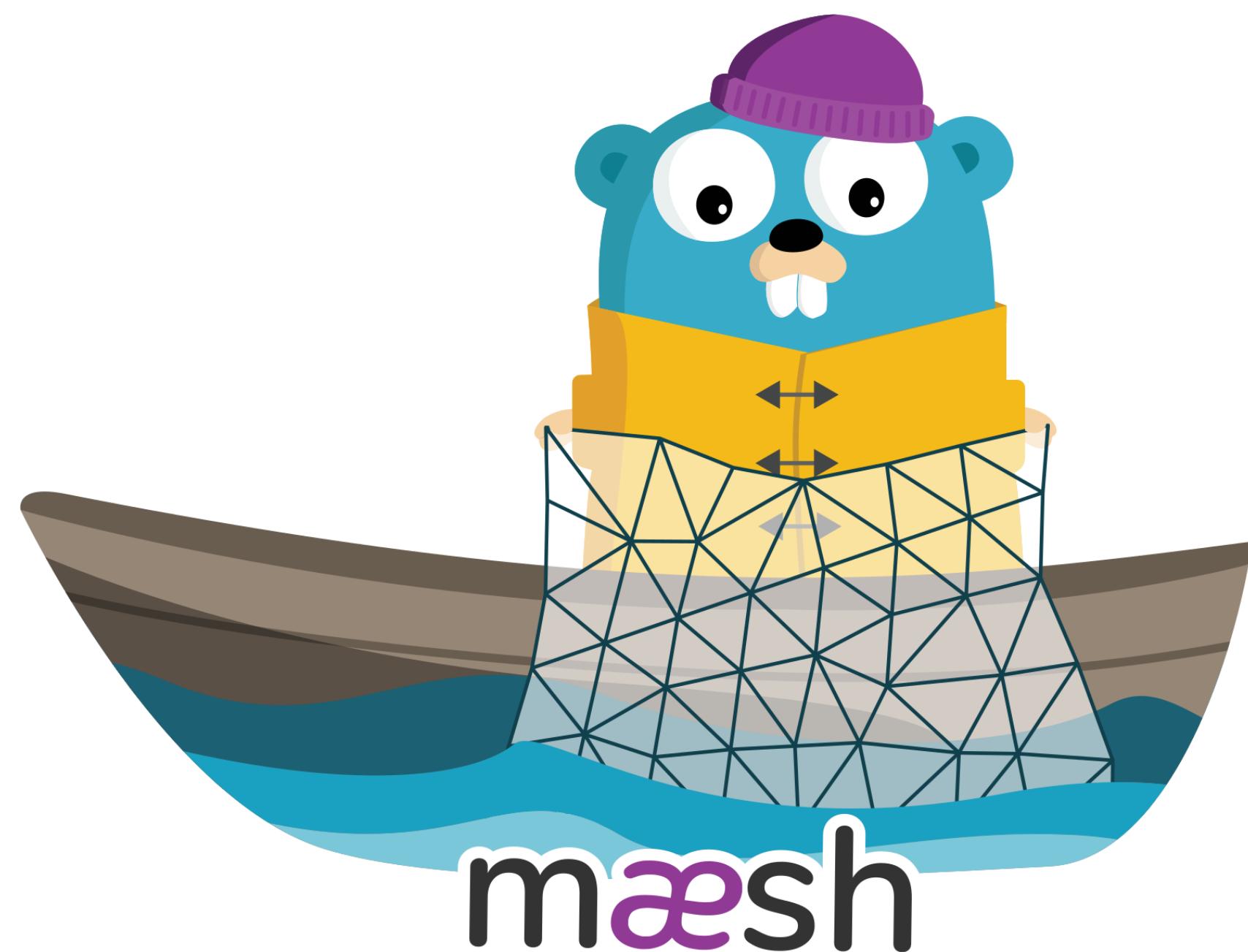
A cloud of technology terms in various colors, including:

- MESOS
- ZIPKIN
- LIMITING
- KUBERNETES
- Dynamic Metrics
- HTTP ERROR
- CERTIFICATE
- TLS Reverse-Proxy
- HEADERS
- GRPC
- S3 BUCKET
- CIRCUIT BREAKERS
- DYNAMIC/WILDCARD
- Security Configurations
- Tracing PROXY
- SECRETS
- PROMETHEUS
- JAEGER
- WEBSOCKETS
- SSL
- FORWARDING
- REDIRECTS
- DOCKER
- PROTOCOL
- CHECKS
- CLUSTER AUTH
- HSTS
- CONSUL
- RATE
- SWARM MODE
- HEALTH

# East / West Traefik



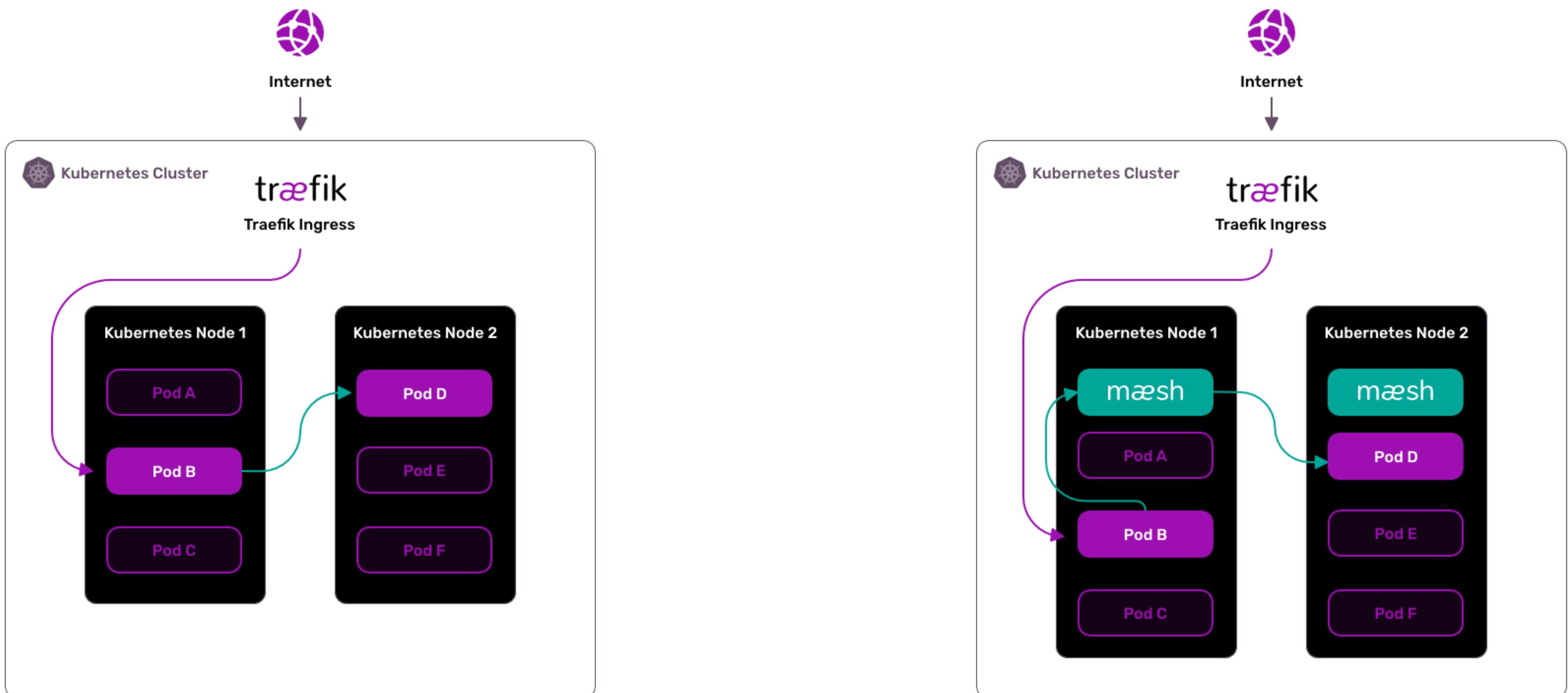
# Say Hello To Maesh



# What Is Maesh?

*Maesh is a lightweight, easy to configure, and non-invasive service mesh that allows visibility and management of the traffic flows inside any Kubernetes cluster.*

# Maesh Architecture

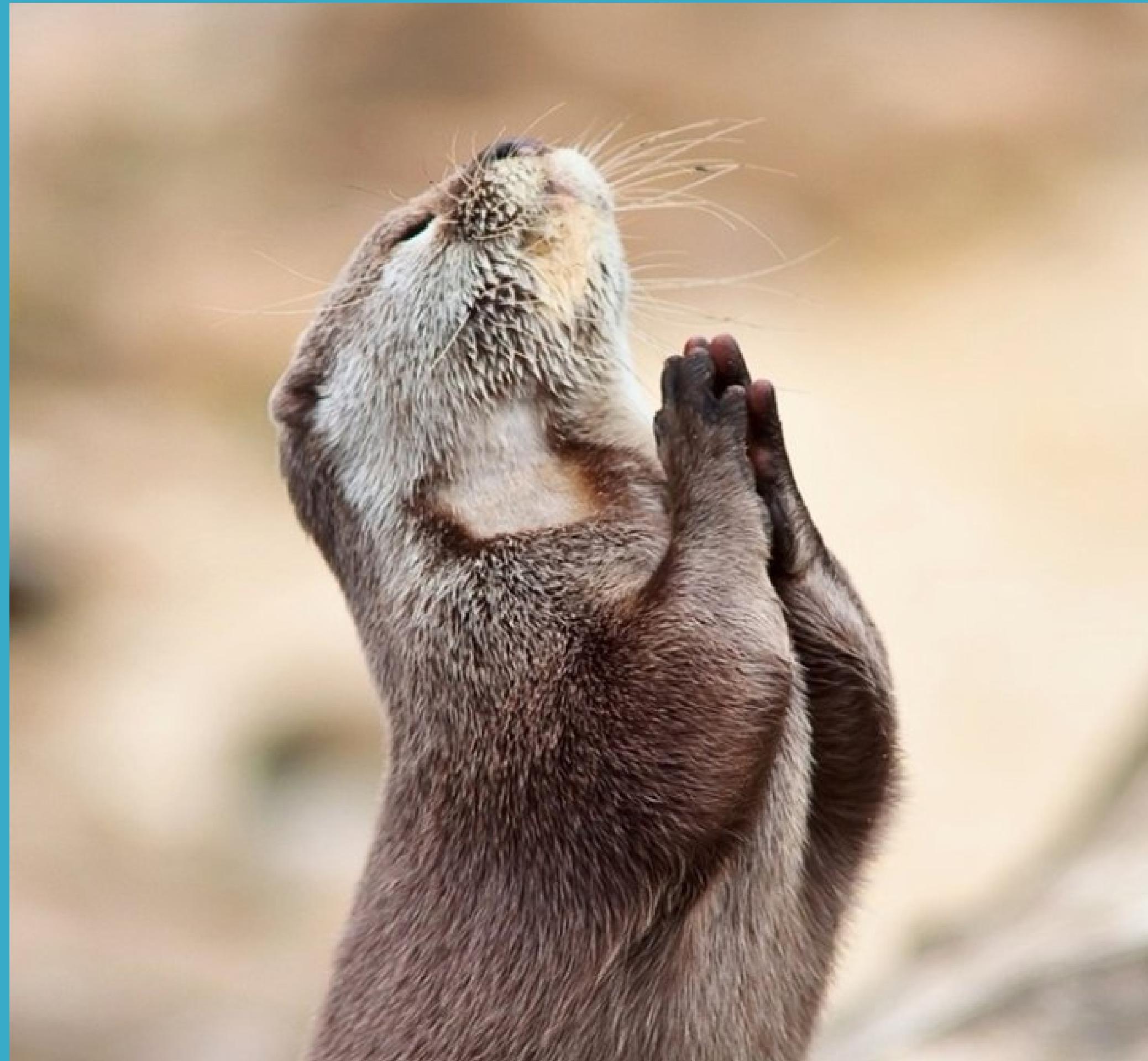


# More On Maesh

- Built on top of Traefik,
- SMI (Service Mesh Interface specification) compliant,
- Opt-in by default.

Maesh Website

# Demo



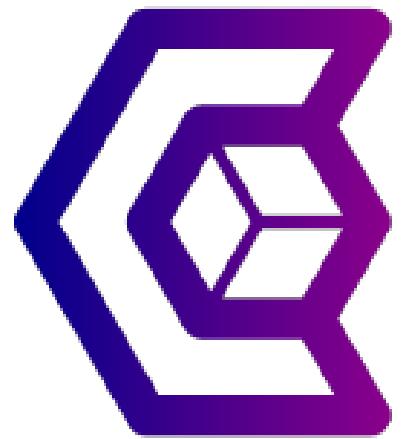
# That's All Folks!



We Have  
Stickers!

traefik

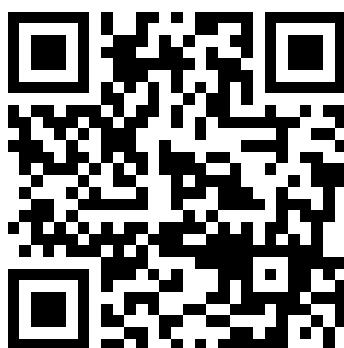
# We Are Hiring!



```
docker run -it containous/jobs
```

# Thank You!

-  @mZapfDE
-  @martinet\_adrien
-  SantoDE
-  adrimartinet



- Slides (HTML): <https://containous.github.io/slides/paris-kubernetes-days>
- Slides (PDF): <https://containous.github.io/slides/paris-kubernetes-days/slides.pdf>
- Source on : <https://github.com/containous/slides/tree/paris-kubernetes-days>